



COGNITIVE MODELING
CONCENTRATION
at The Ohio State University

The Cognitive Modeling group at Ohio State brings together internationally recognized scholars in cognitive psychology and quantitative psychology. The shared aim is to develop mathematical and computational models as tools to better understand the human mind: how humans make decisions, how they process new information and remember old information, how these kinds of processes unfold over time, and how these processes vary across individuals. The research interests of the core and associated faculty bridge and bring together cognition, mathematical psychology, neuroscience, linguistics, cognitive science, education, marketing, and statistics.

Faculty Aims

The core faculty are Dirk Bernhardt-Walther, Simon Dennis, Zhong-Lin Lu, Jay Myung, Alexander Petrov, Mark Pitt, Roger Ratcliff, Per Sederberg, and Trisha Van Zandt. The goal is to provide graduate students and postdoctoral fellows with the skills and background knowledge that will enable them to participate fully in theoretical work in cognition, neuroscience, and related fields. The program stresses the development of computational and mathematical expertise, coupled with a practical grounding in empirical testing.

Affiliated Faculty

Primary faculty in the cognitive area include Dirk Bernhardt-Walther, Simon Dennis, Zhong-Lin Lu, Richard Jagacinski, Gail McKoon, Alexander Petrov, Mark Pitt, Roger Ratcliff, Per Sederberg, and Jim Todd. Their research interests spread across auditory perception, attention, psycholinguistics, visual perception, memory, categorization, control of action, decision making, analysis of fMRI, EEG, and neural recording data, and the effects of aging and disorders on cognitive performance.

Primary faculty in the quantitative area include Bob Cudeck, Michael DeKay, Michael Edwards, Jay Myung, Tom Nygren, Ellen Peters, and Trisha Van Zandt. Their research interests are factor analysis, structural equation modeling, Bayesian analysis, model selection issues, judgment and decision making, neural network models, and models of cognitive processing.

Graduate Program

A major focus for graduate students is the development of their own individual research specializations. There is considerable flexibility in course requirements, and students are encouraged to obtain training that is appropriate for their topic area, whether in the psychology department or in other departments. The goal is the production of high quality research for publication in major journals.

Students are expected to meet standard requirements of the Psychology Department such as statistics (though some students pass out of some or all of this). They are expected to take quantitative courses such as Mathematical Psychology, Introduction to Mathematical Models, Neural Network Models, Memory and Cognition, and a selection of courses from the cognitive topic areas (Perception and Psychophysics; Human Performance; Learning, Memory and Cognition; and High Level Cognition). They are also expected to take courses from outside the department as appropriate. These might include stochastic processes, time series analysis, neural network modeling, behavioral neuroscience, decision making, linguistics, and courses from computer science.

Postdoctoral Program

Postdoctoral Fellows are funded through individual faculty research grants. The major aim is for a fellow to participate in high quality research and produce high quality publications. There are many courses in psychology and other fields for fellows to attend and many research meetings that bring speakers from outside as well as within the university.

Interested applicants should contact:

Cognitive Modeling Program, The Ohio State University, Psychology Department, 1885 Neil Avenue, Columbus, OH 43210
Phone: (614) 292-1123 Fax: (614) 688-3984 Email: riepenhoff.19@osu.edu Website: www.psy.ohio-state.edu